

### **REMARKS/ARGUMENTS**

Applicant has carefully reviewed and considered the Office Action mailed on January 12, 2007, and the references cited therewith.

Claims 1-7, 10-11, 13 and 16-24 are amended, and no claims were cancelled or added. Claims 25-63 were withdrawn pursuant to a restriction requirement. As a result, Claims 1-63 are now pending in this application.

#### **§ 102 Rejection of the Claims**

Claims 1-24 were rejected under 35 USC §102(e) as being anticipated by Periyalwar (U.S. Patent No. 6,611,695).

Applicant does not admit the Periyalwar reference to be prior art, and reserves the right to swear behind the asserted reference at a later date, if necessary.

From Applicant's review, the Periyalwar reference appears to describe a method and apparatus for assigning frequency channels to a particular beam within an omni directional multi-beam cellular voice phone system having channels which communicate equally in all directions. A (fixed) geographic region is divided up into a plurality of (fixed) hexagonally-shaped "cells," each cell having a central base station for receiving and transmitting to and from wireless telecommunication devices located within the cell. Each cell is sectorized, and/or subdivided, and thereafter the fixed geographical cell area is serviced by a number of beams using directional antennae. As shown in Figure 1 of the Periyalwar reference, the radial extent of each beam is set to reach to the cell boundary. The Periyalwar reference appears to describe a method for evaluating channel quality within a beam and selecting an acceptable channel from among those that are available. The Periyalwar reference however, does not appear to describe adjusting beam characteristics, such as by associating a transmission peak and/or null with a particular communication beam. The Periyalwar reference does not appear to describe dynamically variable physical cell dimensions, nor teach that the radial

extent of a particular communication beam correspond to anything other than a geographically-fixed cell boundary.

In contrast, Applicant's application and independent claims, as amended, relate to a data communication system for computing devices such as a local area network (LAN) or wide area network (WAN) computing network. As recited in the Background, one shortcoming of wireless data communication is a relatively low bandwidth compared to a wired LAN or WAN system. To overcome this shortcoming, Applicant's invention provides a technique where the multi-beam directed signal system is configured to determine and adjust, by beam forming, a transmission peak for a particular directed wireless computing communication beam in a non-omni directional manner based on operational information associated with signal routing. In this manner, more power can be associated with a particular signal path and/or communication beam (i.e., associated with a transmission peak), to increase communication range, to increase data integrity or data security. Support for the same can be found in the specification as originally filed in paragraph 21 on page 10, and paragraph 24 on page 11, and which include the following:

When the electromagnetic waves are focused in a desired direction, the pattern formed by the electromagnetic wave is termed a "beam" or "beam pattern", such as a directed communication beam 214. The production and/or application of such electromagnetic beams 214 is typically referred to as "beam-forming." Beam forming provides a number of benefits such as greater range and/or coverage area per unit of transmitted power, improved resistance to interference, increased immunity to the deleterious effects of multi-path transmission signals, and so forth. For example, a single communication beam 214(1) can be directed for communications with a specific wireless-configured client device 202 and can be transmitted over a much greater distance 218 than would be covered by a conventional omni-directional antenna (e.g., example omni-directional transmission area 216 shown only for comparison).

...

... Transmission nulls may also be associated with the intent to maximize power in another direction (i.e., associated with a transmission peak), to

increase data integrity or data security . . . A determination to direct a transmission null and/or a transmission peak (e.g., a communication beam 214) in a particular direction can be based on collected or otherwise provided routing information . . .

Specifically, Applicant's independent Claim 1, as amended, recites "the multi-beam directed signal system is configured to determine and adjust, by beam forming, a transmission peak for a particular directed wireless computing communication beam in a non-omni directional manner based on operational information associated with signal routing." As such, Applicant respectfully submits this to be in direct contrast to choosing a channel in an omni-directional cellular voice phone system as described the Periyalwar reference. Therefore, each and every element and limitation of independent Claim 1, as amended, is not present in the Periyalwar reference. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 102 rejection of independent Claim 1, as amended, as well as dependent Claims 2-15 that depend therefrom.

With respect to independent Claim 16, as amended, which include a limitation of emanating a directed communication beam, associated with a transmission peak which is adjusted relative to other beams of a multi-beam directed signal system by beam forming in a non-omni directional manner, for the data communication with the computing device. The Periyalwar reference appears to describe evaluating the quality of particular channels within a particular beam and a channel selection process based on the evaluation, but does not appear to describe adjusting or changing the communication beam, for example, by emanating a directed communication beam, associated with a transmission peak which is adjusted relative to other beams of a multi-beam directed signal system, for the data communication with the computing device. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the 102 rejection of independent Claim 16, as amended, as well as dependent Claims 17-24 which depend from independent Claim 16.

**CONCLUSION**

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicants' attorney at (612) 236-0120 to facilitate prosecution of this matter.

**CERTIFICATE UNDER 37 CFR §1.8:** The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: **MS AMENDMENT** Commissioner of Patents, P.O. BOX 1450, Alexandria, VA 22313-1450 on this 12<sup>th</sup> day of April, 2007.

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Date: 4/12/2007